Biologia Plantarum 1996 vol.38 N4, pages 495-499

Electrogenic K+/H+ exchange in excised wheat roots

Pakhomova V.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Root excision from Triticum vulgare L. var. muticum seedlings induced a membrane potential drop, homeostasis disturbances, and loss of absorbing capacity in roots. During subsequent 3 - 4 h incubation the initial physiological properties of the roots were restored. At that period K+ absorption could be blocked by tetraethylammonium (TEA) without changing pH of the incubation medium. After 5 - 6 h of incubation the membrane hyperpolarization and the enhancement of the absorbing capacity were observed. At that period K+ influx, at presence or absence of valinomycin in incubation medium, was coupled with acidification of the external medium and was not blocked by TEA.

Keywords

ion uptake, tetraethylammonium, Triticum vulgare, valinomycin